SUPPLEMENTAL MATERIAL

Cerebrovascular Complications of COVID-19

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METHODS:

Data on the COVID-19 patients were obtained primarily by retrospective chart review. Get-with-the-Guidelines-Stroke and health system COVID-19 databases were used to find potential COVID-19 patients with stroke to include in the study, and only general demographic information was extracted from these sources and verified during retrospective chart review. For control patients, Get-with-the-Guidelines-Stroke data was used and was validated and supplemented by retrospective chart review.

We defined altered mental status during retrospective chart review as including patients with encephalopathy, ranging from confusion to coma. These patients may have had focal deficits on detailed neurological examination, but these were not the predominant manifestation of their neurological presentations. Patients without encephalopathy, and with focal cortical findings, such as aphasia or neglect, were classified as having focal deficit presentations, not altered mental status.

Exclusive intracranial hemorrhage was defined as the presence of intracranial hemorrhage without associated infarction. Any intracranial hemorrhage was defined as inclusive of all patients presenting with either (1) intracranial hemorrhage without infarction (exclusive intracranial hemorrhage), (2) simultaneous intracranial hemorrhage and infarction, or (3) hemorrhagic transformation.

DISCUSSION:

Another limitation of our study was that our comparison group was historical rather than concurrent. We decided to not choose a contemporaneous population of COVID-negative stroke patients because current polymerase chain reaction testing for SARS-CoV-2 infection has a false-negative rate up to 48%,[14] and we wanted to avoid contaminating our control population with these patients. Additionally, while we had a complete dataset for the historical controls, by supplementing any missing variables from our Get-with-the-Guidelines-stroke database by retrospective chart review, data on a contemporaneous sample of stroke patients without COVID-19 during the same period were limited. During the pandemic peak, human resources typically utilized for stroke data abstraction were reassigned to care for COVID-19 patients, resulting in a significant delay in data collection and entry into Get-with-the-Guidelines-Stroke database. Since missing data elements may bias our results, and make them less reliable, we chose to not study a contemporaneous control population.